

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1-5 and 7-11 have been canceled. Claim 6 has been amended to delete certain unnecessary limitations and to recite the feature taken from cancelled Claim 11 of a magnetic flux isolation member made of a non-magnetic material. It further recites that the magnetic flux isolation member is formed with a circular groove on a surface thereof directed to the armature, wherein circular slits are formed in the armature. Basis for the circular groove in the magnetic flux isolation member is found in the figures – the unnumbered groove between portions 24a and 24b -- and basis for the arc slits is found in slits 58 formed in the armature 31. New dependent Claims 12-21 have been introduced. Basis for the dependent claims is present in the original claims and is evident from the specification.

According to a feature of the invention set forth in the claims, a drive power transmission device includes an electromagnetic type pilot clutch mechanism comprising means for generating a clutch magnetic path whose magnetic flux passes to reciprocate plural times across the electromagnetic type pilot clutch mechanism. According to a further feature of the invention now set forth in Claim 6, the device further comprises a magnetic flux isolation member made of a non-magnetic material and formed with a circular groove on a surface thereof directed to the armature, wherein the armature has circular slits. For example, referring to the non-limiting embodiments of the drawings, a magnetic flux isolation member is in the form of the isolation wall portion 24 having an unnumbered groove between portions 24a and 24b, and the armature 31 has circular slits 38. The non-magnetic isolation wall portion 24 blocks the leakage of magnetic flux throughout the whole circumferential length thereof, which increases the connection force of the electromagnetic type pilot clutch mechanism.

Claims 1, 2, and 10 had again been rejected under 35 U.S.C. § 102 as being anticipated by the U.S. patent to Isley. Applicants note that the Examiner has additionally stated over the telephone that this rejection should have included Claim 6. In doing so, the Examiner has again taken the position that frictional contact between the armature 182 and the rotor 192 is inherent in Isley, and that a “weaving electromagnetic path” is provided by the banana slots 184 and 194 respectively provided on the armature 182 and the rotor 192. However, Isley nonetheless fails to teach or suggest the presently claimed magnetic flux isolation member made of a non-magnetic material and formed with a circular groove on a surface thereof directed to the armature. The banana slots 194 are formed in the rotor 192 which is fabricated of soft iron (column 6, lines 14-16). Additionally, the portion between the banana slots 194 is a portion of the rotor itself, i.e., a portion formed of soft iron (note that the banana slots 194 in Figure 3 are discontinuous (column 6, lines 14-21)). Magnetic flux can thus leak via this portion, which lowers the connecting force of the clutch. Amended Claim 6 and its dependent claims therefore define over this reference.

Original Claim 11, which had recited the magnetic flux isolation member made of a non-magnetic material, had been rejected under 35 U.S.C. § 103 as being obvious over Isley in view of Booth et al, wherein elements 25 and 26 of Booth et al were considered to be magnetic isolation members. It was the position of the Examiner that this would have rendered it obvious to have included such magnetic isolation members in Isley. However, Claim 6 now further recites that the magnetic flux isolation member made of a non-magnetic material is “formed with a circular groove on a surface thereof directed to said armature”, e.g., the unnumbered groove shown in Figure 3 and surrounded by the inner and outer cylindrical isolation portions 24b and 24a. The weaving magnetic flux path can thus be achieved via a single magnetic isolation element having the groove, which makes it possible to provide the stationary portion of the weaving magnetic flux path using only three elements:

the cylindrical external portion 21, the inner cylindrical portion 22 and the isolation wall portion 24.

In contrast, Booth et al does not disclose a magnetic flux isolation member made of a non-magnetic material and formed with a circular groove on a surface thereof directed to the armature. Instead, Booth uses two separate non-magnetic members 25 and 26, with an intermediate magnetic member 18b, to provide the stationary portion of the weaving magnetic flux path. Therefore, to the extent that Booth would suggest providing a magnetic flux isolation structure to provide the weaving magnetic flux path in Isley, Booth et al would suggest providing separate magnetic flux isolation members and a separate intermediate magnetic portion. In this case, the resulting structure, like Booth et al, would require five elements (e.g., 18a, 25, 18b, 26 and 18c) to form the stationary portion of the weaving magnetic flux path. Accordingly, amended Claim 6 would not have been obvious from any combination of Isley and Booth, and provides advantages over any obvious combination of the above references.

Concerning the rejection of the dependent Claims 3-5 and 7 as being obvious over Isley in view of Drawl et al, Drawl et al is directed to the coating of a cutting tool with an abrasive coating and could provide no teaching for overcoming the shortcomings of Isley, or Isley in view of Booth et al.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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